

WO 2004/113691 A3

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
29 December 2004 (29.12.2004)

PCT

(10) International Publication Number  
**WO 2004/113691 A3**

(51) International Patent Classification<sup>7</sup>: **F01N 3/02**,  
3/20, 9/00, 11/00

Caxton, Cambridge CB3 8PQ (GB). WALKER, Andrew,  
Peter [GB/GB]; 57 Bramley Avenue, Melbourn, Royston  
SG8 6HG (GB).

(21) International Application Number:

PCT/GB2004/002643

(74) Agent: NUNN, Andrew, Dominic; Johnson Matthey  
Technology Centre, Blounts Court, Sonning Common,  
Reading RG4 9NH (GB).

(22) International Filing Date: 18 June 2004 (18.06.2004)

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(25) Filing Language: English

English

(26) Publication Language: English

(30) Priority Data:

0314242.9	18 June 2003 (18.06.2003)	GB
0314463.1	23 June 2003 (23.06.2003)	GB
0322963.0	1 October 2003 (01.10.2003)	GB

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,  
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

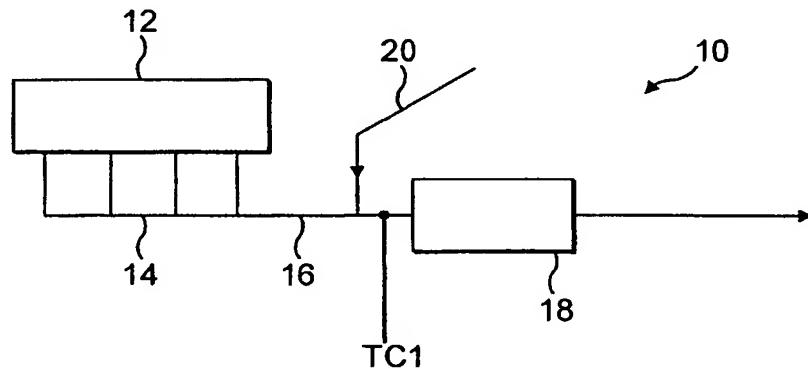
(71) Applicant (for all designated States except US): JOHN-  
SON MATTHEY PUBLIC LIMITED COMPANY  
[GB/GB]; 2-4 Cockspur Street, Trafalgar Street, London  
SW1Y 5BQ (GB).

Published:

— with international search report

[Continued on next page]

(54) Title: SYSTEM AND METHOD OF CONTROLLING REDUCTANT ADDITION



(57) Abstract: An exhaust system (10) for a vehicular lean-burn internal combustion engine (12) comprises a NO<sub>x</sub> reduction catalyst (18), a source of reductant, means (20) for contacting the catalyst (18) with the reductant, means (TC1) for sensing the temperature of the exhaust gas and/or the catalyst bed and means, when in use, for controlling reductant addition, wherein the reductant addition control means supplies an amount of reductant to the catalyst at a rate corresponding to a measured temperature value of the exhaust gas and/or catalyst bed, which temperature value has been pre-determined to correlate, in use, with an amount of NO<sub>x</sub> in the exhaust gas.



- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(88) Date of publication of the international search report:  
2 June 2005